



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,457	09/17/2003	Evan A. Gordon	2662	4334

7590 12/06/2006

A. Burgess Lowe
101 East Maple Street
North Canton, OH 44720

EXAMINER

TILL, TERRENCE R

ART UNIT	PAPER NUMBER
----------	--------------

1744

DATE MAILED: 12/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/664,457

Applicant(s)

GORDON ET AL.

Examiner

Terrence R. Till

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-20 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-6, 9, 10, 12 and 14-19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Gergek (US 6,766,556) in view of Howard et al. (US 4,074,385).

Art Unit: 1744

5. The patent to Gergek discloses a cleaning device 10 for cleaning a surface in which cleaning solution is dispensed to the surface and substantially simultaneously extracted along with the dirt on the surface in a continuous operation comprising: a base 12 for movement along a surface; a recovery system 26 mounted to said base and comprising: a suction nozzle 52; a suction source 40 for drawing liquid and dirt from said surface through said suction nozzle; a liquid distribution system 92,94,118,120 for dispensing liquid to said surface; a brush assembly 78,98,100,102,108 operatively connected to said base; and wherein said brush assembly has at least one brush 98 including a first set of pliable elements 78 extending downwardly from said brush and contacting the surface, said brush having at least one opening 94 for dispensing the liquid to the cleaning surface, said opening being located between said first and second sets of pliable elements (see figure 2). Gergek does not disclose a brush assembly having first and second sets of pliable elements having first and second groups of pliable elements of different lengths. The patent to Howard et al. discloses (see figures 1 and 3) a brush assembly having at least one brush including a first set of pliable elements (outermost ring of bristles 16- see figure 3) extending downwardly from said brush sloping downwardly and outwardly and contacting the surface, said first set of pliable elements having at least a first group of pliable elements and a second group of pliable elements. As can be seen from figure 1 of Howard et al., the outermost ring of bristles that slope downwardly and outwardly have all of their ends in the same plane. Therefore, a first group of pliable elements, i.e., the outermost elements in a bristle tuft (bundle) in the outermost ring of bristles, are longer than a second group of pliable elements of the same bristle tuft that are positioned radially inwardly from the first group. From figure 1, the length of bristles gets progressively shorter from the outermost radial position to an inner radial position.

Art Unit: 1744

Thus, each of said pliable elements of said second group of said first set extending downwardly from said brush have a length less than said first group of said first set, said second group of pliable elements of said first set being positioned inwardly from said first group of said pliable elements of said first set. Additionally, Howard et al. disclose a second set of pliable elements, i.e., a second bristle tuft (bundle) in a second bristle ring, positioned radially inwardly of the outermost bristle ring (see figure 3) extending downwardly from said brush and contacting the surface, a said second set of pliable elements located inwardly from said first set of pliable elements as defined above, said second set of pliable elements having at least a first group of pliable elements and a second group of pliable elements, each of said pliable elements of said second group of said second set extending downwardly from said brush at a length less than said first group of pliable elements of said second set. As with the outermost ring of the bristles, the length of the second-most outer ring of bristles progressively decreases as the radial distance decreases, as their ends all lie in the same plane (see figure 1). Therefore, It would have been obvious to a person skilled in the art at the time the invention was made to substitute the bristle arrangement of Gergek with the bristle arrangement of Howard et al. in order to promote better cleaning by raising the carpet pile (see Howard et al. column 2, lines 5-10). With respect to claim 5, since the length of the pliable elements (bristles) progressively diminishes from a radial outer position to a radial inner position, Howard is considered to disclose each of said bundles includes said first and second groups of pliable elements, said second group of pliable elements having at least a first pliable element extending a first length, at least a second pliable element extending a second length greater than the first length of said first pliable element, and at least a third pliable element extending a third length greater than the second length of said second

Art Unit: 1744

pliable element. With respect to claim 9, although, Gergek, as modified by Howard et al., does not disclose each of said pliable element is angled outwardly in the range of 20 to 40 degrees with respect to an axis perpendicular to the cleaning surface, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the tufts (bundles) of the bristles of Gergek, as modified by Howard et al., to be in the range of 20 to 40 degrees, as it is considered that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

6. Claim 11 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Gergek, as modified by Howard et al., as applied to claim 10 above, and further in view of Malish et al. (US 4,114,225).

7. Gergek, as modified by Howard et al., do not disclose the bristles are crimped. Gergek does not disclose the method of attachment and Howard et al. use staples 26. The patent to Malish et al. discloses (see column 4, lines 30-40) that crimping bristles is old and well known. Therefore because these two methods of attachment were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute a staple attachment method of Howard et al. for a crimp attachment method in view of the teaching of Malish et al.

8. Claims 13 and 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Gergek, as modified by Howard et al., as applied to claims 9 and 19 above, and further in view of Krause.

9. Gergek, as modified by Howard et al., do not disclose said brushes being gear brushes and arranged in a gear train. Gergek discloses a belt drive 106 to rotate the brushes. The patent to

Art Unit: 1744

Krause discloses a plurality of brushes 40 said brushes being geared brushes 44 and arranged in a gear train, each said brush rotating about a vertical axis. Therefore because these two drive methods (belt drive and gear drive) were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the belt drive of Gergek for a gear drive in view of the teaching of Krause.

Allowable Subject Matter

10. Claims 7 and 8 remain objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. Applicant's arguments filed 10/13/06 have been fully considered but they are not persuasive.

12. With respect to applicant's argument that "the Applicants' claim does not relate to the overall length of the pliable element and instead requires the second group of pliable elements to extend downwardly from the brush a length less than the first group of pliable elements. In contrast to Howard and Gergek, the claimed brush assembly includes a first group of pliable elements that extend downwardly to a greater extent than the second group of pliable elements. This feature is best seen in Fig. 10 where the first group of pliable elements is indicated by reference number 334, and the second group is indicated by reference number 354. The differences in the downward extension of each is clearly seen in this Figure". With all due respect, when looking in the specification, to understand the claim terms, it is clear that the scope of the claim concerns the length of the bristles (pliable elements) within a single tuft (first set of

Art Unit: 1744

pliable elements or bristle bundle as mentioned in the specification) and these bristles within the single tuft are identified by different groups with the second group of bristles having a length less than the first group.

13. On page 8 to page 9 of the specification, it states:

“As best seen in FIGS. 8-10, each gear brush 326 includes a gear tooth 228 having a blind bore, extending to offset 233 into which pliable elements in the form of bristles 331,332 define bristle bundles 334 which are compressively inserted therein and extend downwardly to the cleaning surface. The bristle bundles 334 are arranged in an outer ring 337 around the gear brush 326. Each of the bristle bundles 334 includes inner and outer bristle groups 335, 338, respectively, that slope or flare outwardly with respect to the brush assembly 316 at an angle of thirty degrees with respect to the vertical axis of the gear brush 326. **The bristles 331 of the outer bristle group 338 are longer than the bristles 332 of the inner bristle group 335** (emphasis- examiner). The inner bristle group 335 is also trimmed outwardly at an angle of forty-five degrees with respect to the cleaning surface, such that the length of each successive bristle going from the inner end 340 to the outer end 342 of the inner group 335 is longer than that of the previous bristle”.

14. Page 9 also recites:

“The gear brush 326 further includes a second set of bristles 346, 348 defining bristles bundles 350 which are received in blind bores and arranged in an inner ring 352 around the gear brush 326. These bristle bundles 350 are shorter in length than the bristle bundles 334 of the outer ring 337. Each of the bristle bundles 350 includes inner and outer bristle

Art Unit: 1744

groups 354,356, respectively, that flare outwardly with respect to the brush assembly 316 at an angle of thirty degrees with respect to the vertical axis of the gear brush. The bristles 346 of the outer bristle group 356 are longer than those of the inner bristle group 354”.

15. Since the term “group” refers to the bristles of a single tuft/bristle bundle in the specification, it is clear to the examiner that his interpretation of the scope of the claim is accurate. As such, the rejection of Gergek, as modified by Howard et al., is considered to teach and render obvious the claimed combination of subject matter.

16. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., applicants' bristles are trimmed so that they are not all contacting the surface to be cleaned- as opposed to Howard et al. See page 19 of remarks) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37


Art Unit: 1744

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrence R. Till whose telephone number is (571) 272-1280. The examiner can normally be reached on Mon. through Thurs. and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys P. Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Terrence R. Till
Primary Examiner
Art Unit 1744

trt